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ABSTRACT

Outline graphics provide concurrent access to both visual and verbal elements. Their logic is primarily but not exclusively verbal. They rely upon the visual aspects of layout design and symbology to compress the several ideas of a conceptual cluster into a single comprehensible holistic display. This paper introduces new terminology and lists and describes the characteristics and advantages of outline graphics. Examples are given of ways in which outline graphics have been used in instructional design and of the adaptive pliability of the graphic form which provides flexibility in making form fit functional need. Four references are listed. (Author/LMM)

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THE OUTLINE GRAPHIC

Paper presented at the Annual Meeting,

Association for Educational Communications and Technology,

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THE OUTLINE GRAPHIC

Abstract

Outline graphics provide concurrent access to both visual and verbal elements. Their logic is primarily but not exclusively verbal. They rely upon the visual aspects of layout design and symbology to compress the several ideas of a conceptual cluster into a single comprehensible holistic display. The purpose of this paper is to introduce new terminology and to list and describe the characteristics and advantages of outline graphics. Examples are given of ways in which outline graphics have been used in instructional design and of the adaptive pliability of the graphic form which provides flexibility in making form fit functional need.

Terminology

The outline graphic (OG) is a form of visual display which, when properly designed, holds high promise as an effective instructional component. The OG is particularly well suited for use in instructional settings where complex verbal information is to be learned. A key feature of OGs as learning components is that they provide students with a type of illustration that draws upon both visual and verbal elements. Readers are unlikely to have encountered the term "outline graphic" previously. The term may be in use elsewhere, but not to the knowledge of the author. "Outline graphic" is, however, a term that is somewhat self-defining (any outline done in any graphic form), and it is a term that captures in its categorizing breadth a sizeable conglomeration of useful graphic forms.

As pointed out by Moore and Nawrocki (1978), there are definitional problems associated with the terminology of instructional "graphics." There are no universally accepted definitions, much less any consensus schema of categorization. Referring to the few schemata which have been offered, Duchastel and Waller (1979) stated,

> Instead of a taxonomy of illustrations, what is needed is a grammar of illustrations, i.e., a set of principles which relates illustrations to the potential effects they may have on the reader or learner. Such a framework implicitly carries within it a prescriptive dimension, as does any grammar, which can serve as a basis for practical design decisions. (Educational Technology, November, 1979, p. 21)

Although the OG term and its associated concept clearly establish a useful classification category, the expression is offered more as an element of the grammar of illustration than as a taxonomic descriptor.

Characteristics

There are certain characteristics which we might expect to find in any OG. First, the content is skeletal. In this respect the form parallels the attributes of the verbal (written) outline. In fact, the simplest of OGs is the written outline, upgraded with a few lines or symbols to reinforce the basic organization of the outline itself.

Second, the display of information has a visual component which goes beyond simple text. In many cases the visual component takes the form of visual cues. Thus, the visually barren printed outline of a literature classic found in one of those ubiquitous college cram-notes booklets would not be an OG. However, an enhanced segment of that same outline might be an OG if, for example, it were set apart visually by a border, artistic spacers, or even a simple box and if emphasis were added to the words by the way they were laid out on the page and by some system of contrast in style, size and boldness of the type used to print the words. Such embellishments are not difficult to achieve. It might surprise some readers to learn that Dennis and Jenkins (1974) enumerated a dozen ways to emphasize with type alone.

Third, OGs are orderly. In this respect, the nature of the subject matter will strongly influence the type of order imposed. Some topics have a hierarchical structure. Others are linear and still others represent loosely affiliated groupings of subtopics. Whatever inherent organization may exist in a subject will be emphasized by rendering the subject in an OG format.

Finally, OGs are holistic. The outline element arranges all of the components. The graphic element helps to clarify the relationships of those components to each other. Taken together there is a larger, grander picture of the composite whole.

Advantages

Three advantages of OGs come immediately to mind. The first advantage pays tribute to our need to cater to student differences. The more different ways in which we can present information to groups of students, the greater the probability that we will provide a suitable learning opportunity for every individual. OGs tend to visually display complex verbal material, aiding those students who cannot visualize for themselves and those whose learning styles prevent easy accommodation to completely verbal material.

The second advantage of OGs is that they have the potential to clarify the organization of information meant for presentation to students. This advantage is merely an acknowledgement of the infrequency with which we may expect to encounter complex information so clearly organized that the content structure is face evident.

A probable third advantage of OGs, and perhaps the most important thing that can be said about them, is that they have the potential to involve the whole brain in the learning process. With few exceptions

OGs will appeal to the left brain lobe with subject content expressed in direct linguistic referents and will concurrently involve the right brain lobe with spatial-temporal relationships, visual symbology, and aesthetic-creative interpretation. Remember, this was listed as a probable advantage. Whole brain involvement cannot be claimed but must be theorized at this point in time.

Utility

The applications of OGs are limitless. Anytime that an instructor presents information from organized lecture notes, those notes can be rendered into outline form and ultimately transposed into OGs. In this infinitely fertile environment there are a few special cases which may be of particular interest to instructional developers. Among the special cases are the OG used in lieu of behavioral objectives and the prescriptive OG which is used to control a process. We shall examine each of these uses separately.

In a Marketing Communications course recently developed by a marketing professor and the author there was a reluctance on the part of the professor to openly state behavioral objectives. Because the course was to be project-oriented, the "objectives issue" was quickly resolved by converting the tasks, sub-tasks and sequence of project events into the outline graphic shown in figure 1. The conditions and standards of the objectives were stated in the paragraph which introduced the OG and were orally elaborated by the professor. The OG itself drew upon both symbols (arrows) and numbers to emphasize its linear dimension. The hierarchical dimension was shown through the incorporation of diminishing letter size

Course Project. Marketing 4511-4512: Marketing Communications

The chart below is a graphic outline of the team project that will provide the primary learning experiences in this course. The ultimate objectives are to gain experience with real clients, to learn to interact smoothly in a complex team process, and to produce an acceptable product as measured by successful presentation of the campaign to the client and by client and instructor satisfaction with the final report.

TASKS	SUB-TASKS
(1) MEET WITH CLIENT	• Determine problems • Establish project objectives
(2) PREPARE SITUATION ANALYSIS	• Gather background data • Interpret findings
(3) DEVELOP DATA PLAN	• Identify information needed • Determine collection methods
(4) GATHER PRIMARY DATA	• Collect information • Do computer analysis
(5) MAKE RECOMMENDATIONS TO CLIENT	• Give *product* recommendations • Make *price* suggestions • Offer *place* strategies • Provide *promotion* plan
(6) DESIGN PROMOTIONAL CAMPAIGN	• Prepare the following: Ad budget; Media selections; Creative materials; (e.g., TV storyboards, Print ads, Radio ads, Point-of-purchase displays, Direct mail items.)
(7) PRESENT MARKETING/ADVERTISING CAMPAIGN TO CLIENT	• Make formal presentation • Undergo client evaluation
(8) PROVIDE WRITTEN REPORT	• Adopt client revisions • Summarize project • Provide a working plan

Fig. 1 Outline graphic used to specify behavioral objectives.

and left-to-right page layout as subordination devices. Items in the left hand column were right-margin-justified to strengthen the link between adjacent elements in the right hand column.

In another course design, the instructional strategy called for purposeful grouping of the enrolled students. The chosen process was to be systematic. The agreed procedure was outlined into two phases containing four major functional steps with a total of ten important tasks. That outline became the basis for the model in figure 2. As a model the figure is prescriptive, controlling both the sequence and the nature of the activities undertaken. As a figure, the model is just another form of the OG.

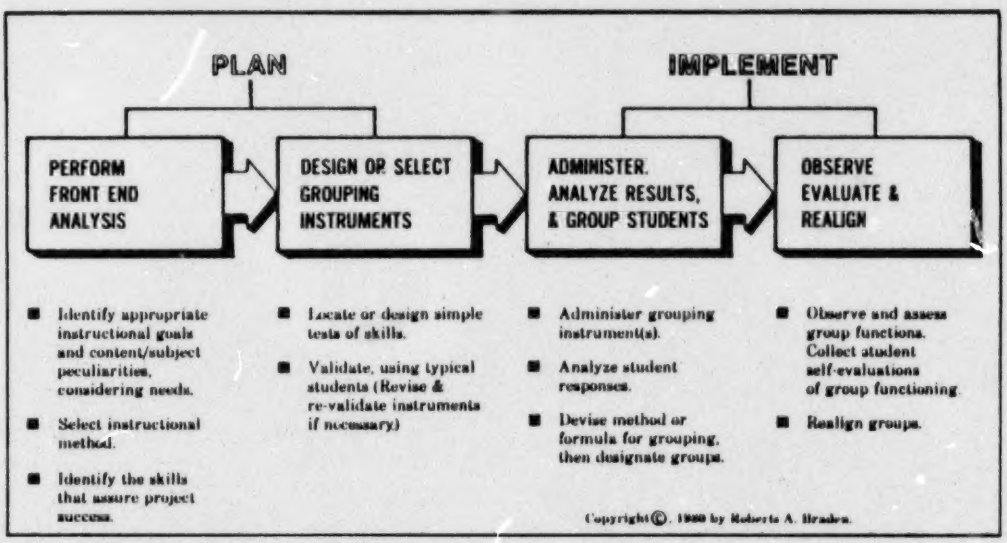
PLAN
IMPLEMENT
PERFORM FRONT END ANALYSIS
DESIGN OR SELECT GROUPING INSTRUMENTS
ADMINISTER, ANALYZE RESULTS, & GROUP STUDENTS
OBSERVE EVALUATE & REALIGN
Identify appropriate instructional goals and content/subject peculiarities, considering needs.
Select instructional method.
Identify the skills that assure project success.
Locate or design simple tests of skills.
Validate, using typical students (Revise & re-validate instruments if necessary)
Administer grouping instrument(s).
Analyze student responses.
Devise method or formula for grouping, then designate groups.
Observe and assess group functions. Collect student self-evaluations of group functioning.
Realign groups.
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Fig. 2 Outline graphic as a process model.

Skills

As with most creative ventures, the design and production of OGs calls for a mixture of skills and aptitudes. These attributes may be centered in a single person or may be the pooled qualities of a design team. From whatever source(s), the list of human talents and abilities which might contribute to the creation of effective OGs is lengthy and certainly includes linguistic finesse, artistic talent, and aesthetic

judgement. However, there are six other things that the competent OG designer must be able to do. They are:

1) organize information by grouping--whether by kind, by quantity, by quality, or by function;
2) organize information or events by hierarchy;
3) organize information or events linearly;
4) reduce the content of organized information to skeletal form suitable for parsimonious display;
5) apply basic design principles and emphasis cues to the display of any kind of organized information; and
6) adapt graphic form to meet the intended communication or instructional function.

An Adaptive Example

There is a third generation schema for categorizing visual displays by Merrill and Bunderson (1981) which reflects a refinement of a portion of the Structure of Intellect Model of Guilford (1967) as re-defined by Moore and Nawrocki (1978). As finally postulated this categorizing system provides an excellent vehicle for demonstrating the adaptive pliability of the graphic form. This particular set of theoretical constructs was selected as a fortuitous example because the subject content conveniently relates to the OG topic.

In the example four quite different OG designs (renderings) of the categorization scheme are shown, each developed with a particular instructional intent in mind. The first rendering is shown as figure 3. The illustration is obviously a verbal outline, much like the outlines

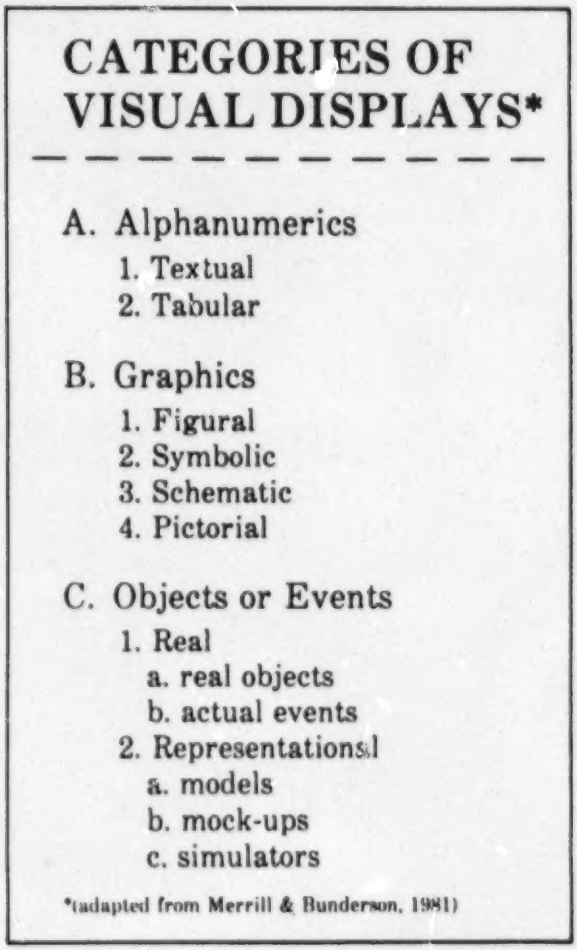

Fig. 3. Minimal outline graphic.

we studied in English classes. As such it follows widely accepted rules which control its development. The figure is so dominantly verbal that it barely qualifies as an OG. The thin-wall box, three letter sizes, and a dashed line setting the title apart are the only graphic elements incorporated in this minimal OG.

In the next rendering there is less verbal information displayed. Compare figure 4 to figure 3. Even so, the message is not necessarily

diminished. The organization of the conceptual elements is emphasized and a clear hierarchical picture is given which offers an orderly arrangement of components by level or class. The graphic techniques which contribute to this image are the visual cliché of the organizational diagram, three letter sizes, light italic letters contrasted with others that are medium bold, accentuation of the higher organizational levels caused by bolder lines in construction of the upper boxes, and a stiffly formal layout with an obvious concern for symmetry.

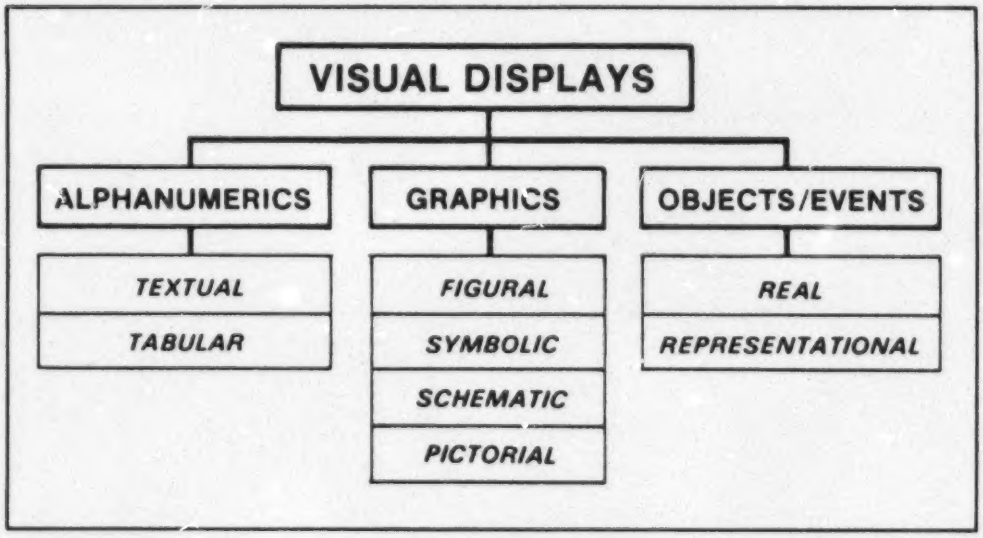

Fig. 4. Outline graphic as hierarchical organization diagram.

The layout of the components in OGs need not follow a top-to-bottom pattern. The designer should keep in mind that in our culture individuals have a left-to-right reading orientation and that the initial eye fixation will probably take in the upper left hand corner of the illustration. However, when a holistic view is desired, the outline can be organized around a central element as in Figure 5. Notice in this

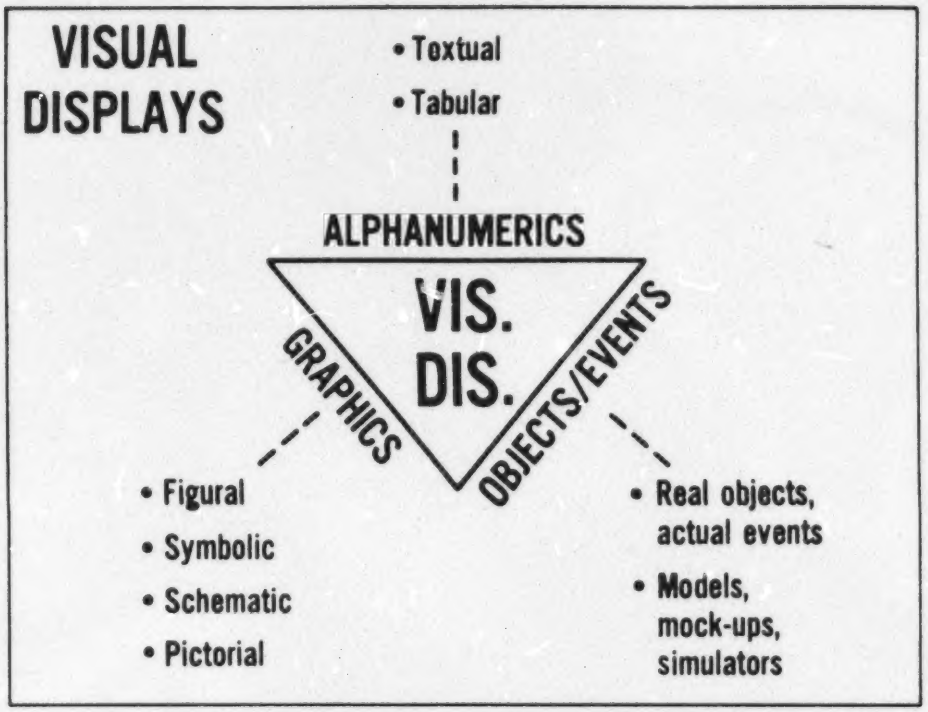

Fig. 5. Outline graphic with component clusters and central (holistic) emphasis.

rendering that the center abbreviation is an extension of the title which captured the upper left corner. In this case the title is a design gimmick and is essentially redundant to the message of the OG. The triangular shape calls attention to the trichotomous nature of the subject matter while concurrently offering center focus so that the several separate parts are pulled together as an entity. The visual provides one central cluster and three remote clusters of components.

In Figure 6 the triangle has been abandoned in favor of a central circle. Also the sub-topics and sub-sub-topics have been arranged around the periphery of the image. The desired effect of this layout

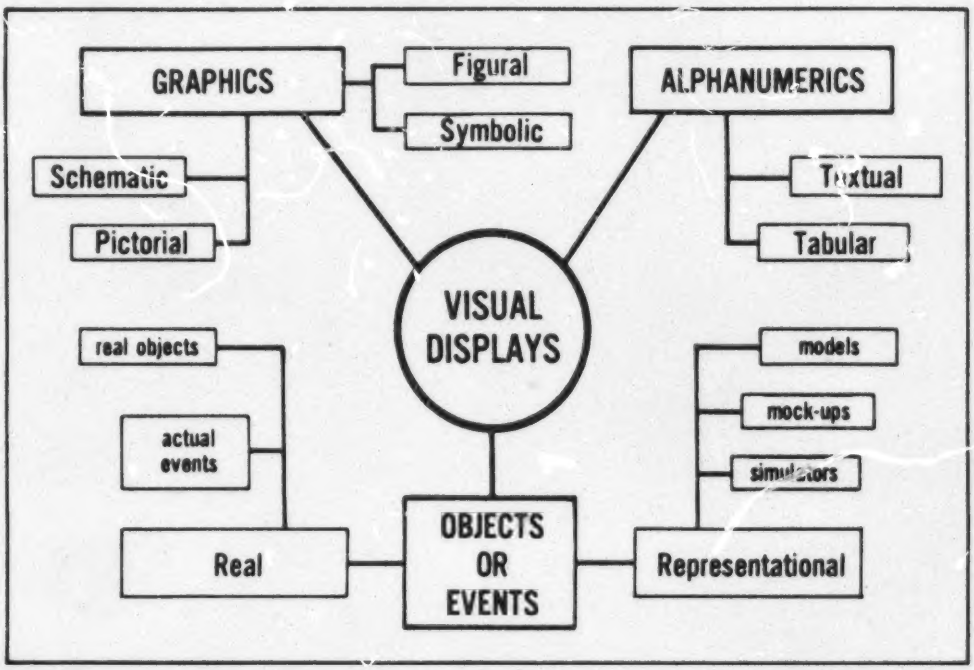

Fig. 6. Integrative outline graphic, showing adjacent-component relationships.

is to emphasize the relationships of the components to each other. In that sense, the illustration is integrative. This is in contrast to figure 5 where the emphasis was upon the relationship of the components to a group and of the group to the central cluster. Thus we see in figure 6 that "pictorial" items are classified under "graphics" but that they are closely related to "real objects" which are classified under "objects or events."

Because most OGs start out in the pre-design phase as verbal outlines, their logic is primarily but not exclusively verbal. Therefore, the principal task of the OG designer is to be creative in finding ways to augment that verbal logic with visual cues which supplement rather than detract from that logic.

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